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10/520,792	01/10/2005	Aldo Di Nicolantonio	3165	3246

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EXAMINER	
LEE, LAURA MICHELLE	
ART UNIT	PAPER NUMBER
3724	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,792	DI NICOLANTONIO, ALDO	
	Examiner	Art Unit	
	LAURA M. LEE	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments see lines 1-3, on page 2, filed 6/26/2008, with respect to the rejection(s) of claim(s) 1-10 under Tam et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Bergler et al. (U.S. Patent 4,262,421).

Claim Objections

2. Claims 3 and 6 are objected to because of the following informalities:

Claim 3, recites "wherein the oscillation mechanism includes a spring element (53) that is disposed between the housing (2) and the end (52) of the roller lever (5)." However, the specification, (page 2, 1st and 2nd paragraphs), states that "... the forward progress of the saw changes automatically by means of an adaptive, automatic oscillation that is a function of the advancing force in the cutting direction. Preferably, this occurs by means of a spring element that is compressed further as the advancing force, i.e. cutting speed, increases." Therefore, if the spring element (53) is a structure of the "means... for automatically adjusting the oscillation stroke..." it cannot also be claimed as a part of the oscillation mechanism, wherein the duality of the oscillation mechanism and the "means... for" was previously identified in claim 1. Claim 3, line 2, should be changed to -- wherein the oscillation mechanism ***means*** includes a spring

element (53) that is disposed between the housing (2) and the end (52) of the roller lever (5)--, to discern that two spring elements aren't being claimed.

Claim 3, lines 3- 4, recites that "... the roller lever... cooperates with a component..." However, there is nothing in the claim or proceeding claim to further define what that the component is a part of.

Claim 6, line 3 recites "a second stop", however, it is noted that there is no first stop previously claimed in combination with claim 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dürr et al. (U.S. Patent 5,644,846), herein referred to as Durr in view of Smith (U.S. Patent 6,701,816).

Dürr discloses a motor-driven compass saw machine (i.e. a jigsaw) having a housing (housing, 1) that contains a longitudinally moving lifter rod (slide, 5), which supports a saw blade (saw blade, 2), and an oscillation mechanism (i.e. balancing

mass, 13, lever arms, 18/20, fork 19) that is able to impart a variable oscillation stroke (a.k.a. orbital movement) (by the adjustable means of knob,25) to the saw blade (2).

However, Dürr does not disclose that the oscillation mechanism includes automatic means for adjusting the oscillation stroke (orbital movement) smoothly between the maximum and minimum stroke during the sawing process, as an automatic response to a function of the pressure of the saw blade against a workpiece to be sawn. Instead, Dürr discloses that the adjusting means are manually actuated. Dürr discloses that by the means of the knob, 25, that oscillation stroke (orbital movement) is smoothly controlled between the maximum and minimum stroke during the sawing process (see col. 4, lines 57-67). However, as the difference between Dürr and the limitations of claim 1, is the broad recitation of replacing a manually actuated adjustment means with an automatically actuated adjustment means, it is noted that it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art and would be an obvious modification. *In re Venner*, 120 USPQ 192.

Furthermore, orbital movement is well known in the art as it applies to jigsaws to impart a more effective cutting action by exerting a forward or lateral component to the cutting stroke, and has been found to achieve greater cutting efficiency from power tools in that it resembles the motion of an individual putting relatively greater force or weight against a saw during a cutting stroke than a return stroke. Moreover, depending on the work piece being addressed, more or less cutting action may be desired, and the force of the orbital cutting action may be adjusted by changing the orbital stroke. Although it

is well known in the art to manually adjust the orbital or oscillation stroke, to change the cutting action, a means of automatically adjusting the stroke is not known per se. However, attention is also directed to the Smith reference that discloses a means for sensing and evaluating blade speed and work feed rate for a bandsaw, a close relative of the jigsaw cutting tool.

Smith discloses that in bandsaws, both manually fed and automated systems are known in the art. However, the manually feed systems have a disadvantage in that adjustments to the feed rate are determined by the judgment of an operator who listens for changes in sound of the saw blade. This is similar to the manual adjustment of the orbital blade movement of the jigsaw, wherein the operator controls the adjustment based upon the perceived exertion of the cutting blade through the workpiece in order to maximize the cutting speed and performance. Smith continues that by providing a sensing device to measure and calculate the movement and lateral displacement of the saw blade, those measurements can be used to automatically alter the work-feed rate and/or saw blade rim speed as sawing conditions change within the workpiece. The work feed rate is therefore automatically infinitely variable over a preselected range based on the detected lateral displacement of the saw blade. Thus, the operator's experience and skill is no longer a factor in determining the feed rate, resulting in better cutting performance and consistency. Although automating the altering of the work-feed rate of a bandsaw is not the same as automating the adjusting of the orbital cutting motion of a jigsaw, one having ordinary skill in the art would recognize that it would be obvious to apply the known technique of automating a manual operation, such as the

Dürr adjusting means, to improve the cutting performance of a cutting tool, such as taught by Smith, especially as it has also been held that providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art and would be an obvious modification. *In re Venner*, 120 USPQ 192.

In regards to claim 2, the modified device of Dürr discloses that the oscillation mechanism (13) has a roller lever (pivoting fork, 19) that is disposed in the housing (1) can rotate around a horizontal first axis (point of rotation, 23), and supports a roller (support roller, 21) that remains in contact with the saw blade (2) and can rotate around a horizontal second axis (center of roller 21), and whose oscillation mechanism has a fork lever (13) that periodically deflects the roller lever (19), wherein it is possible to control the oscillation stroke as a function of the pressure of the saw blade (2) against a work piece to be sawn (see columns 3,4, lines 59-67 and lines 1-8).

In regards to claim 3, the modified device of Dürr discloses that the oscillation mechanism includes a spring element (not numbered, as shown in Fig 1, to the left of reference 16), that is disposed between the housing (1) and the end (upper flat surface) of the roller lever (19) orientated away from the roller (21) and cooperates with a component parallel to the deflection direction of the fork lever (13).

In regards to claim 4, the modified device of Dürr discloses that parallel to the spring element (not numbered), a damping device (not numbered) is disposed between the housing (1) and the end of the roller lever (19) orientated away from the roller (21). The damping device is considered the parallel, vertical member to the right of the spring

that acts to dampen the oscillation of the roller lever by providing an impeding force on the top corner of the lever during spring compression.

In regards to claim 5, the modified device of Dürr discloses that underneath the roller lever (19), in the region of its end orientated away from the roller (21), a first stop (sliding surface, 17) is provided on the housing (1).

In regards to claim 6, the modified device of Dürr discloses that above the roller lever (19), in the region of its end orientated away from the roller (21), a second stop (stop limit, 26) is provided on the housing (1), shown in Figures 2-5.

In regards to claim 7, the modified device of Dürr discloses that the second stop (26) can be set to various distances from the roller lever (19) via knob 25, see column 4, lines 57-67.

In regards to claim 8, the modified device of Dürr discloses that the second stop (26) can be manually set to various distances from the roller lever (19) via knob 25, see column 4, lines 57- 67.

5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dürr in view of Walton II (U.S. Patent 4,238,884), herein referred to as Walton. Dürr discloses the claimed invention, except that there is a second spring that presses the saw blade (2) against the roller (21). However attention is directed to the Walton device that discloses an orbital jig saw with a compression spring (106) that presses the saw blade against the roller via slide bearing 100. The action of the compressive spring on the slide bearing provides the saw blade positive guiding and driving control with no lost

motion (column 5, lines 11-23). It would have been obvious to one having ordinary skill in the art to have provided a compression spring on the device of Dürr in view of the teachings of Walton in order to provide a positive guiding and driving control for the saw blade.

In regards to claim 10, the modified device of Dürr discloses that wherein a deflection of the roller lever (19) only occurs if the advancing force of the compass saw machine is greater than the difference between the spring force and the compression spring force.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clowers (U.S. Patent 4,628,605), in view of Smith (U.S. Patent 6,701,816).

Clowers discloses a motor-driven compass saw machine (i.e. a jigsaw) having a housing (housing, 20) that contains a longitudinally moving lifter rod (holder arm, 46), which supports a saw blade (saw blade, 30), and an oscillation mechanism (i.e. cam 28; cam lever, 52, spring, 60,etc.) that is able to impart a variable oscillation stroke (a.k.a. orbital movement) (by the adjustable means of orbit control knob, 68) to the saw blade (30).

However, Clowers does not disclose that the oscillation mechanism includes automatic means for adjusting the oscillation stroke (orbital movement) smoothly between the maximum and minimum stroke during the sawing process, as an automatic

response to a function of the pressure of the saw blade against a workpiece to be sawn. Instead, Clowers discloses that the adjusting means are manually actuated. Clowers discloses that by the means of the knob, 68, that oscillation stroke (orbital movement) is smoothly controlled between the maximum and minimum stroke during the sawing process (see esp. col. 6, lines 35-45 and col. 7, lines 7-12). However, as the difference between Dürr and the limitations of claim 1, is the broad recitation of replacing a manually actuated adjustment means with an automatically actuated adjustment means, it is noted that it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art and would be an obvious modification. *In re Venner*, 120 USPQ 192.

Furthermore, orbital movement is well known in the art as it applies to jigsaws to impart a more effective cutting action by exerting a forward or lateral component to the cutting stroke, and has been found to achieve greater cutting efficiency from power tools in that it resembles the motion of an individual putting relatively greater force or weight against a saw during a cutting stroke than a return stroke. Moreover, depending on the work piece being addressed, more or less cutting action may be desired, and the force of the orbital cutting action may be adjusted by changing the orbital stroke. Although it is well known in the art to manually adjust the orbital or oscillation stroke, to change the cutting action, a means of automatically adjusting the stroke is not known per se. However, attention is also directed to the Smith reference that discloses a means for sensing and evaluating blade speed and work feed rate for a bandsaw, a close relative of the jigsaw cutting tool.

Smith discloses that in bandsaws, both manually fed and automated systems are known in the art. However, the manually feed systems have a disadvantage in that adjustments to the feed rate are determined by the judgment of an operator who listens for changes in sound of the saw blade. This is similar to the manual adjustment of the orbital blade movement of the jigsaw, wherein the operator controls the adjustment based upon the perceived exertion of the cutting blade through the workpiece in order to maximize the cutting speed and performance. Smith continues that by providing a sensing device to measure and calculate the movement and lateral displacement of the saw blade, those measurements can be used to automatically alter the work-feed rate and/or saw blade rim speed as sawing conditions change within the workpiece. The work feed rate is therefore automatically infinitely variable over a preselected range based on the detected lateral displacement of the saw blade. Thus, the operator's experience and skill is no longer a factor in determining the feed rate, resulting in better cutting performance and consistency. Although automating the altering of the work-feed rate of a bandsaw is not the same as automating the adjusting of the orbital cutting motion of a jigsaw, one having ordinary skill in the art would recognize that it would be obvious to apply the known technique of automating a manual operation, such as the Clowers adjusting means, to improve the cutting performance of a cutting tool, such as taught by Smith, especially as it has also been held that providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art and would be an obvious modification. *In re Venner*, 120 USPQ 192.

In regards to claim 2, the modified device of Clowers discloses wherein the oscillation mechanism has a roller lever (88/88/72) that is disposed in the housing (20) can rotate around a horizontal first axis (pivot pin, 94), and supports a roller (roller bearing, 82) that remains in contact with the saw blade (30) and can rotate around a second horizontal axis (the rotational axis of the roller), and whose oscillation mechanism has a fork lever (orbit cam lever, 52) that periodically deflects the roller lever (88/88/72).

In regards to claim 3, the modified device of Clowers discloses wherein the oscillation mechanism includes a spring element (60) that is disposed between the housing (20) and the end of the roller lever (88/88/72), orientated away from the roller (82) and cooperates with a component (i.e. shaft, 66, or pivot pin, 64) parallel to the deflection direction of the fork lever (52).

In regards to claim 4, the modified device of Bergler discloses wherein parallel to the spring element (60), a dampening device (i.e. the other of shaft, 66 or pivot pin, 64) is disposed between the housing (20) and the end of the roller lever (88/88/72) orientated away from the roller (82).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA M. LEE whose telephone number is (571)272-8339. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laura M Lee/
Examiner, Art Unit 3724
10/10/2008

/Boyer D. Ashley/
Supervisory Patent Examiner, Art Unit 3724